

REMARKS

In the Office Action mailed September 25, 2003, claims 1-5, 7-16, and 18-19 were rejected under 35 U.S.C. §102(e) as being anticipated by Duluk et al., U.S. Patent No. 6,525,737. Claims 6 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Duluk et al. As set forth below, the Applicant contends that the rejection was improper and requests that the claims be allowed.

Limitations of claims 1-4 are not shown or suggested in the Duluk et al. reference

The Applicant acknowledges that the text of Duluk et al. in columns 13 and 14 discusses the storage of vertex information V2 and state information S2 within the polygon memory shown in FIG. 12. Duluk et al. however does not show or suggest “prohibiting an additional set of state data from being stored” in the buffer when N sets of data have been stored as claimed in claim 1.

In paragraph 2 of the Office Action, the Examiner appears to tacitly acknowledge that Duluk et al. does not teach the last limitation of pending claim 1. The Examiner stated that:

“Duluk et al further teach polygon memory will overflow if a single user frame contains too much information. The overflow point depends on the size of Polygon Memory.... When memory fills up, all primitives are flushed down the pipe and the user frame finished with another fill of the Polygon Memory buffer (col. 18, lines 66-67, and col. 19, lines 1-9), thus prohibiting additional set of state data.” (Emphasis added.)

The plain language of Duluk et al. cited by the Examiner states that the polygon memory is flushed when the memory fills up. “Flushing memory” as taught by Duluk et al. is not the same as “prohibiting...additional...state data from being stored” as claimed in claim 1.

The Merriam Webster’s Collegiate Dictionary, Tenth Edition, copyright 1997 provides many definitions for the word “flush.” One definition for the transitive verb “flush” is to “cleanse or wash out.” The Microsoft Computer Dictionary, Fourth Edition, copyright 1999 provides two definitions of “flush” one of which is: “to clear a portion of memory. For example, to flush a disk file buffer is to save its contents on disk and then clear the buffer for filling again.”

The act of “flushing” memory is not the same as “prohibiting” data from being written or stored into memory as claimed in pending claim 1. Unless the Examiner can find within the Duluk et al. references, all of the limitations of claim 1, the rejection of claim 1 under 35 U.S.C. §102(e) should be withdrawn.

If the Examiner maintains his rejection of claim 1 on the basis of Duluk et al. “flushing” being the same as “prohibiting” the Applicants request the Examiner to cite some authority supporting his position/contention that erasing or dumping the contents of the polygon memory, i.e., “flushing” the polygon memory, is the same as “prohibiting” data from being written or stored into a memory as claimed in claim 1.

If the Examiner contends that Duluk et al. shows the “prohibiting” step of claim elsewhere, under the provisions of 37 C.F.R. 1.104((c)(2), the Applicants ask the Examiner to identify by column and line number, where the “prohibiting” limitations of claim 1 can be located in Duluk et al.

Dependent claims 2-4 are not shown in the prior art

Claim 2 claims that a maximum of two (2) states N can be stored in the claimed buffer. Claim 3 added additional limitations that require a determination that a number of M sets of state data be identified as no longer used to proves graphics primitives and then permitting additional state data to be stored in the buffer when the M sets of data are no longer used. Claim 4 claims that the buffer recited in claim 1 is either a code buffer or a constant buffer.

In studying the Office Action, the Applicant is unable to locate therein, how or where the Examiner discussed the limitations of claims 2, 3 or 4 in the Duluk et al. reference. Indeed, the Office Action is devoid of any discussion of claims 2, 3, and 4 and how each of them is anticipated by Duluk et al. Under 37 C.F.R. 1.104(c)(2), the Applicant is entitled to an identification of where the limitations of each claim can be found in Duluk et al.

The Examiner’s rejection of claims 2, 3 and 4 is improper because the Examiner has wholly failed to identify where there limitations are located within the Duluk et al. reference. If the Examiner maintains his rejection of these claims, the Applicants ask that the Examiner identify by column and line number where each of them can be located in the Duluk et al. reference.

Limitations of claims 5-12 are not shown or suggested in the Duluk et al. reference

Paraphrased, independent method claim 5 claims writing “N” sets of state data to a buffer; determining whether an additional set of state data would exceed the available space in the buffer and if so, waiting until a requisite amount of buffer space is available and then writing the additional state data into the buffer.

The Applicants are unable to locate in the Office Action, where claims 5 and 7-12 are considered or discussed. It appears that the Examiner grouped claims 5 and 7-12 together with claims 1-4 and rejected them without ever addressing the different limitations of the individual claims.

Even if the Examiner had addressed claim 5, the Applicants submit that “flushing” memory as taught by Duluk et al. is not the same process as “waiting” for memory availability as claimed in claim 5. The Applicants cannot envision how “flushing” could be construed to be the same as “waiting” for memory to become available. Therefore, the rejection of claim 5 was improper and should be withdrawn.

As for dependent claim 6, it claims among other things that the buffer of claim 5 is a ring buffer. Although ring buffers per se are known in the art, using a ring buffer in the method of claim 5 is not known in the art as demonstrated by the Examiner’s inability to show each and every limitation of independent claim 5 in the prior art. Claim 6 is therefore allowable.

As for dependent claim 7, it mirrors claim 2 and is allowable for the reasons set forth above.

Claim 8 claims that the “waiting” step claimed in claim 7 (which depends on claim 5) comprises waiting until all of the previously stored state data is not being used before proceeding to write new data.

Claim 9 claims that the method of claim 5 further comprises sending a flush command that causes the graphics processor to refuse additional data.

Claim 10 claims that the buffer claimed in claim 5 is either a code buffer or a constant buffer.

Claim 11 is a Beauregard-style claim that requires program instructions for the method of claim 5 to be stored on a computer-readable medium. Nowhere in the Office Action is there any treatment of the limitations of claim 11.

Claim 12 depends on claim 11 and claims that the instructions are in a graphics processor driver.

As set forth above, none of the limitations of claims 7-12 were discussed by the Examiner in the Office Action. The Examiner simply lumped these claims together without any discussion of where each of their limitations can be found in the Duluk et al. reference.

The rejection of claims 5 and 7-12 was improper and should be withdrawn. If the Examiner maintains his rejection, under the provisions of 37 C.F.R. 1.104(c)(2), the Applicants ask that the Examiner identify by column and line number where each claim’s limitations can be found in the Duluk et al. reference.

Claims 13-15 are not shown in the prior art

Independent claim 13 parallels the subject matter claimed in claim 1 except that claim 13 is directed to an apparatus whereas claim 1 is directed to a method. The Applicant submits that claim 13 is allowable over Duluk et al. for the reasons set forth above with respect to claim 1.

Like his treatment of claim 1, the Examiner has not shown how or where Duluk et al. teaches any structure, the function of which is “prohibiting an additional set of state data from being stored in the buffer when N equals a maximum number of allowed states” as claimed in the last limitation of claim 13. Unless the Examiner can find some sort of structure within Duluk et al., or some other reference or references, which performs the same exact function claimed in claim 13 the rejection of claim 13 should be withdrawn and the claim allowed to issue.

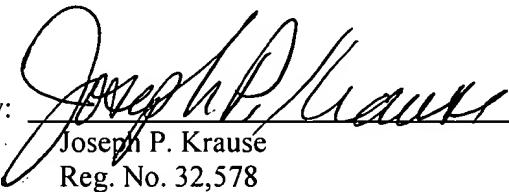
Dependent claims 14 and 15 parallel dependent claims 2 and 3 and are also allowable for the reasons set forth with respect to claims 2 and 3.

Claims 16-19 are not shown in the prior art

Independent claim 16 is an apparatus claim that parallels the subject matter claimed in independent claim 5. Dependent claims 17-19 parallel the subject matter claimed in dependent claims 6-8. The Applicant submits that claims 16-19 are allowable over Duluk et al. for the reasons set forth above with respect to claims 6-8.

In conclusion, the Applicant asks that the rejections be withdrawn and the claims allowed to issue. If the Examine maintains the rejection, under 37 C.F.R. 1.104(c)2(2), the Applicants are entitled to an identification by column and line number, where each claim limitation can be located in Duluk et al.

Respectfully submitted,

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